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- Mindermengenzuschlag
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- Expressversand

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HSP27 Protein

Human Recombinant HSP27 Protein
Catalog No. SPR-105



Discovery through partnership | Excellence through quality

Overview

Product Name

HSP27 Protein

Description

Human Recombinant HSP27 Protein

Applications

WB, SDS-PAGE, Functional Assay, ELISA

Concentration

1 mg/ml

Conjugates

His tag

Nature

Recombinant

Species

Human

Expression System

E. coli

Properties

Storage Buffer

50mM Tris/HCl, pH8, 0.3M NaCl

Storage Temperature

-20°C

Shipping Temperature

Blue Ice or 4°C

Purification

Affinity Purified

Specificity

~27 kDa

Cite This Product

Human Recombinant HSP27 Protein (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SPR-105)

Certificate Of Analysis

This product has been certified >90% pure using SDS-PAGE analysis.

Biological Description

Alternative Names

28kDa heat shock Protein, CMT2F Protein, HSP25 Protein, HSP27 Protein, HSP28 Protein, HSPB1 Protein, SRP27 Protein

Research Areas

Cancer, Heat Shock

Cellular Localization

Cytoplasm, Nucleus

Accession Number

BC012768

Gene ID

3315

Swiss Prot

P04792

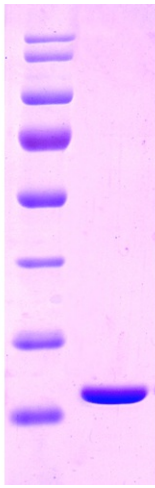
Scientific Background

HSP27s belong to an abundant and ubiquitous family of small heat shock proteins (sHSP). It is an important HSP found in both normal human cells and cancer cells. The basic structure of most sHSPs is a homologous and highly conserved amino acid sequence, with an α -crystallin-domain at the C-terminus and the WD/EPF domain at the less conserved N-terminus. This N-terminus is essential for the development of high molecular oligomers (1, 2). HSP27-oligomers consist of stable dimers formed by as many as 8-40 HSP27 protein monomers (3). The oligomerization status is connected with the chaperone activity: aggregates of large oligomers have high chaperone activity, whereas dimers have no chaperone activity (4). HSP27 is localized to the cytoplasm of unstressed cells but can redistribute to the nucleus in response to stress, where it may function to stabilize DNA and/or the nuclear membrane. Other functions include chaperone activity (as mentioned above), thermo tolerance in vivo, inhibition of apoptosis, and signal transduction. Specifically, in vitro, it acts as an ATP-independent chaperone by inhibiting protein aggregation and by stabilizing partially denatured proteins, which ensures refolding of the HSP70 complex. HSP27 is also involved in the apoptotic signaling pathway because it interferes with the activation of cytochrome c/Apaf-1/dATP complex, thereby inhibiting the activation of procaspase-9. It is also hypothesized that HSP27 may serve some role in cross-bridge formation between actin and myosin (5). And finally, HSP27 is also thought to be involved in the process of cell differentiation. The up-regulation of HSP27 correlates with the rate of phosphorylation and with an increase of large oligomers. It is possible that HSP27 may play a crucial role in termination of growth (6). Looking for more information on HSP27? Visit our new HSP27 Scientific Resource Guide at <http://www.HSP27.com>.

References

1. Kim K.K., Kim R., and Kim, S. (1998) *Nature* 394(6693): 595-599.
 2. Van Montfort R., Slingsby C., and Vierling E. (2001) *Addv Protein Chem.* 59: 105-56.
 3. Ehrnsperger M., Graber S., Gaestel M. and Buchner J. (1997) *EMBO J.* 16: 221-229.
 4. Ciocca D.R., Oesterreich S., Chamness G.C., McGuire W.L., and Fugua S.A. (1993) *J Natl Cancer Inst.* 85 (19): 1558-70.
 5. Sarto C. Binnz P.A. and Mocarelli P. (2000) *Electrophoresis.* 21(6): 1218-26.
 6. Arrigo A.P. (2005) *J Cell Biochem.* 94(2): 241-6.
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Product Images



SDS-PAGE of 28kDa Hsp27 protein (SPR-105).

Product Citations (1)

Other Citations

Modulation of Amyloid- β Protein Precursor Expression by HspB1.

Conway, M., Nafar, F., Straka, T., Mearow, K. -2014 J Alzheimers Dis. 42(2):435-50.

PubMed ID: 24898650

Reviews

Based on validation through cited publications.



StressMarq Biosciences

June 15, 2016: